

**Notice of Allowability**

Application No.

09/671,875

Examiner

Henry W.H. Tsai

Applicant(s)

BLANDY, GEOFFREY OWEN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 9/15/04.
2. ☒ The allowed claim(s) is/are 1-39.
3. ☒ The drawings filed on 08 January 2001 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All b) ☐ Some\* c) ☐ None of the:
    1. ☐ Certified copies of the priority documents have been received.
    2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
    3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
  6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
    - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
      - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
    - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),  
Paper No./Mail Date \_\_\_\_\_
4. ☐ Examiner's Comment Regarding Requirement for Deposit  
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),  
Paper No./Mail Date 9/15/04.
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other \_\_\_\_\_

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**DETAILED ACTION**

***Examiner's Amendment***

1. An examiner's amendment to the record appears below.

Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with *Francis Lammes* on 9/15/04.

2. The application has been amended as follows:

**In the Claims**

In Claim 5, line 3, "is" has been changed to -are-.

Claims 1, 14, and 27 have been changed as follows:

1. (currently amended) A method in a data processing system for creating instruction bundles, comprising:

receiving an instruction group having one or more instructions;

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automatically determining a number of each possible type of instruction in the one or more instructions of the instruction group; and

dynamically creating one or more instruction bundles based on the number of each possible type of instruction in the one or more instructions of the instruction group, wherein creating one or more instruction bundles is performed in view of one or more of the following rules:

1) instructions of the same instruction type will preserve there original order;

2) branches will normally appear only in the final bundle of an instruction group;

3) for architectures where a number of M execution units is equal or less than a number of concurrent bundles, MM templates will only be used when there are three or fewer instructions remaining in the group;

4) instructions are taken in order of their flexibility in terms of where that instruction can be placed in the available bundle types; and

5) MBB and BBB templates are avoided when only a single B instruction remains.

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14. (currently amended) An apparatus in a data processing system for creating instruction bundles, comprising:

means for receiving an instruction group having one or more instructions;

means for automatically determining a number of each possible type of instruction in the one or more instructions of the instruction group; and

means for dynamically creating one or more instruction bundles based on the number of each possible type of instruction in the one or more instructions of the instruction group, wherein the means for creating one or more instruction bundles operates in view of one or more of the following rules:

1) instructions of the same instruction type will preserve there original order;

2) branches will normally appear only in the final bundle of an instruction group;

3) for architectures where a number of M execution units is equal or less than a number of concurrent bundles, MM templates will only be used when there are three or fewer instructions remaining in the group;

4) instructions are taken in order of their flexibility in terms of where that instruction can be placed in the available bundle types; and

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5) MBB and BBB templates are avoided when only a single B instruction remains.

27. (currently amended) A computer program product in a computer readable medium for creating instruction bundles, comprising:

first instructions for receiving an instruction group having one or more instructions;

second instructions for automatically determining a number of each possible type of instruction in the one or more instructions of the instruction group; and

third instructions for dynamically creating one or more instruction bundles based on the number of each possible type of instruction in the one or more instructions of the instruction group, wherein the third instructions for creating one or more instruction bundles are executed in view of one or more of the following rules:

1) instructions of the same instruction type will preserve there original order;

2) branches will normally appear only in the final bundle of an instruction group;

3) for architectures where a number of M execution units is equal or less than a number of concurrent bundles, MM templates

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will only be used when there are three or fewer instructions remaining in the group;

4) instructions are taken in order of their flexibility in terms of where that instruction can be placed in the available bundle types; and

5) MBB and BBB templates are avoided when only a single B instruction remains.

***Allowable Subject Matter***

3. Claims 1-39 are allowed.

4. The following is an examiner's statement of reasons for allowance: Examiner, as set forth in the previous Office Hull et al. (U.S. Patent No. 5,922,065), the closest reference, and the other cited prior art, do not teach or fairly suggest: the rules for dynamically creating one or more instruction bundles as claimed such as 3) for architectures where a number of M execution units is equal or less than a number of concurrent bundles, MM templates will only be used when there are three or fewer instructions remaining in the group; 4) instructions are taken in order of their flexibility in terms of where that

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instruction can be placed in the available bundle types (in claim 1; and claims 14 and 27 recite the corresponding limitations as set forth) in combination with all of the other limitations in the respective independent claims (claims 1, 14, and 27), and the combination is not obvious.

5. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

#### ***Contact Information***

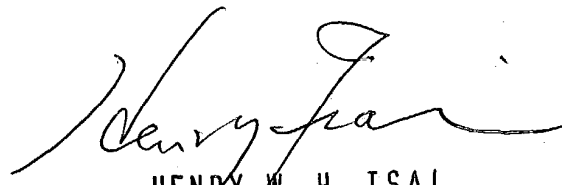
6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Dr. Henry Tsai whose telephone number is (703) 308-7600. The examiner can normally be reached on Monday-Thursday from 8:00 AM to 5:00 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner supervisor, Eddie Chan, can be reached on (703) 305-9712. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to

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the TC 2100 receptionist whose telephone number is (703) 305-3900.

7. In order to reduce pendency and avoid potential delays, Group 2100 is encouraging FAXing of responses to Office actions directly into **the Group at fax number: 703-872-9306**

This practice may be used for filing papers not requiring a fee. It may also be used for filing papers which require a fee by applicants who authorize charges to a PTO deposit account. Please identify the examiner and art unit at the top of your cover sheet. Papers submitted via FAX into Group 2100 will be promptly forward to the examiner.



HENRY W. H. TSAI  
PRIMARY EXAMINER

September 20, 2004